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ABSTRACT of the Disclosure

The present invention provides a method of manufacturing a semiconductor device which is capable of reducing the occurrence of the breakdown and deterioration of a gate oxide film for a control electrode in forming a metal wiring on a semiconductor device having a control electrode. The semiconductor device manufacturing method forms metal wirings 24 of a predetermined pattern connected through a conduction path to a control electrode 8a on an insulating layer 10 formed on a substrate 2. The method comprises the steps of: (1) forming a metal film; (2) forming, on the metal film, a hard mask 22 with a film thickness of 150 nm to 300 nm, said hard mask 22 having the predetermined pattern and comprising a silicon type inorganic insulating film; and (3) etching the metal film by an etching gas with the hard mask 22 to form metal wirings 24 of the predetermined pattern, thereby, lowering the amount of electric charge electrifying the metal film. This method prevents the breakdown and deterioration of the insulating layer due to the electric charge flowing into the control electrode. More preferably, the film thickness of the hard mask 22 is 180 nm to 230 nm.